



## Complete Summary

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### TITLE

Heart failure: percentage of patients aged greater than or equal to 18 years with diagnosed heart failure (HF) who also have left ventricular systolic dysfunction (LVSD) who were prescribed angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy.

### SOURCE(S)

American College of Cardiology, American Heart Association, Physician Consortium for Performance Improvement. Clinical performance measures: heart failure. Tools developed by physicians for physicians. Chicago (IL): American Medical Association (AMA); 2005. 8 p. [9 references]

## Measure Domain

### PRIMARY MEASURE DOMAIN

#### Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

### SECONDARY MEASURE DOMAIN

Does not apply to this measure

## Brief Abstract

### DESCRIPTION

This measure is used to assess the percentage of patients aged greater than or equal to 18 years with diagnosed heart failure (HF) who also have left ventricular systolic dysfunction (LVSD) who were prescribed angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy.

### RATIONALE

According to American College of Cardiology/American Heart Association (ACC/AHA) guidelines, for patients with asymptomatic left ventricular systolic dysfunction (LVSD) (Stage B), angiotensin-converting enzyme (ACE) inhibitor

therapy is recommended for heart failure (HF) patients with recent myocardial infarction (MI) and in patients with reduced ejection fraction.

For patients with symptomatic LVSD (Stage C), ACE inhibitor therapy is recommended in all patients, unless contraindicated.

#### PRIMARY CLINICAL COMPONENT

Heart failure (HF); left ventricular systolic dysfunction (LVSD); angiotensin-converting enzyme (ACE) inhibitor therapy; angiotensin receptor blocker (ARB) therapy

#### DENOMINATOR DESCRIPTION

All heart failure (HF) patients aged greater than or equal to 18 years with left ventricular systolic dysfunction (LVSD) and with left ventricular ejection fraction (LVEF) less than 40 percent, or with moderately or severely depressed left ventricular systolic function

#### NUMERATOR DESCRIPTION

Patients in the denominator who were prescribed angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy

### Evidence Supporting the Measure

#### EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

### Evidence Supporting Need for the Measure

#### NEED FOR THE MEASURE

Variation in quality for the performance measured

#### EVIDENCE SUPPORTING NEED FOR THE MEASURE

Gheorghiade M, Gattis WA, O'Connor CM. Treatment gaps in the pharmacologic management of heart failure. Rev Cardiovasc Med 2002; 3(Suppl 3):S11-9. [27 references] [PubMed](#)

Jencks SF, Huff ED, Cuerdon T. Change in the quality of care delivered to Medicare beneficiaries, 1998-1999 to 2000-2001. JAMA 2003 Jan 15; 289(3): 305-12. [PubMed](#)

## State of Use of the Measure

### STATE OF USE

Pilot testing

### CURRENT USE

Internal quality improvement

## Application of Measure in its Current Use

### CARE SETTING

Ambulatory Care  
Community Health Care  
Managed Care Plans  
Physician Group Practices/Clinics  
Rural Health Care

### PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Advanced Practice Nurses  
Physician Assistants  
Physicians

### LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Individual Clinicians

### TARGET POPULATION AGE

Age greater than or equal to 18 years

### TARGET POPULATION GENDER

Either male or female

### STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

## Characteristics of the Primary Clinical Component

### INCIDENCE/PREVALENCE

A person aged 40 years or older has a 1 in 5 chance of developing heart failure (HF). Currently, about 5 million Americans are living with HF, and about 550,000

new cases are diagnosed each year. The high prevalence combined with multiple complications from this condition increase health care costs significantly.

Despite potential risks and established guidelines, recent data suggest that some patients are not being managed optimally for their disease. It has been reported that in some states:

- Only 68% of Medicare patients with left ventricular ejection fraction less than 0.40 were prescribed an angiotensin-converting enzyme (ACE) inhibitor.
- Only 75% of all HF patients who are candidates for ACE inhibitors are prescribed them.

#### EVIDENCE FOR INCIDENCE/PREVALENCE

American Heart Association. Heart disease and stroke statistics - 2003 update. Dallas (TX): American Heart Association; 2002. 46 p.

Gheorghiade M, Gattis WA, O'Connor CM. Treatment gaps in the pharmacologic management of heart failure. Rev Cardiovasc Med 2002; 3(Suppl 3):S11-9. [27 references] [PubMed](#)

Jencks SF, Huff ED, Cuerdon T. Change in the quality of care delivered to Medicare beneficiaries, 1998-1999 to 2000-2001. JAMA 2003 Jan 15; 289(3): 305-12. [PubMed](#)

Lloyd-Jones DM, Larson MG, Leip EP, Beiser A, D'Agostino RB, Kannel WB, Murabito JM, Vasan RS, Benjamin EJ, Levy D. Lifetime risk for developing congestive heart failure: the Framingham Heart Study. Circulation 2002 Dec 10; 106(24): 3068-72. [PubMed](#)

#### ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

#### BURDEN OF ILLNESS

From 1979 to 2000, heart failure (HF) deaths increased 148%.

About 22% of male and 46% of female heart attack victims will be disabled with HF within 6 years.

In individuals diagnosed with HF, sudden cardiac death occurs at 6 to 9 times the rate in the general population.

#### EVIDENCE FOR BURDEN OF ILLNESS

American Heart Association. Heart disease and stroke statistics - 2003 update. Dallas (TX): American Heart Association; 2002. 46 p.

#### UTILIZATION

Unspecified

## COSTS

In 2003, the annual direct and indirect costs of heart failure (HF) in the United States are expected to exceed \$24 billion.

## EVIDENCE FOR COSTS

American Heart Association. Heart disease and stroke statistics - 2003 update. Dallas (TX): American Heart Association; 2002. 46 p.

## Institute of Medicine National Healthcare Quality Report Categories

### IOM CARE NEED

Living with Illness

### IOM DOMAIN

Effectiveness

## Data Collection for the Measure

### CASE FINDING

Users of care only

### DESCRIPTION OF CASE FINDING

All heart failure (HF) patients aged greater than or equal to 18 years with left ventricular systolic dysfunction (LVSD) and with left ventricular ejection fraction (LVEF) less than 40 percent, or with moderately or severely depressed left ventricular systolic function

### DENOMINATOR SAMPLING FRAME

Patients associated with provider

### DENOMINATOR INCLUSIONS/EXCLUSIONS

#### Inclusions

All heart failure (HF) patients aged greater than or equal to 18 years with left ventricular systolic dysfunction (LVSD) and with left ventricular ejection fraction (LVEF) less than 40 percent or with moderately or severely depressed left ventricular systolic function

#### Exclusions

Documentation of medical reason(s) for not prescribing angiotensin-converting

enzyme (ACE) inhibitor therapy and for not prescribing angiotensin receptor blocker (ARB) therapy; documentation of patient reason(s)\* for not prescribing ACE inhibitor therapy and for not prescribing ARB therapy

\*Patient reasons for not prescribing ACE inhibitor: economic, social, and/or religious, etc.

## RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

## DENOMINATOR (INDEX) EVENT

Clinical Condition

## DENOMINATOR TIME WINDOW

Time window follows index event

## NUMERATOR INCLUSIONS/EXCLUSIONS

### Inclusions

Patients in the denominator who were prescribed angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy

### Exclusions

None

## MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

## NUMERATOR TIME WINDOW

Episode of care

## DATA SOURCE

Administrative data

Medical record

Pharmacy data

## LEVEL OF DETERMINATION OF QUALITY

Individual Case

## PRE-EXISTING INSTRUMENT USED

None

## Computation of the Measure

### SCORING

Rate

### INTERPRETATION OF SCORE

Better quality is associated with a higher score

### ALLOWANCE FOR PATIENT FACTORS

Unspecified

### STANDARD OF COMPARISON

Internal time comparison

## Evaluation of Measure Properties

### EXTENT OF MEASURE TESTING

Unspecified

## Identifying Information

### ORIGINAL TITLE

Heart failure: ACE inhibitor or ARB therapy.

### MEASURE COLLECTION

[The Physician Consortium for Performance Improvement Measurement Sets](#)

### MEASURE SET NAME

[American College of Cardiology, American Heart Association, and Physician Consortium for Performance Improvement: Heart Failure Physician Performance Measurement Set](#)

### SUBMITTER

American Medical Association on behalf of the American College of Cardiology, the American Heart Association, and the Physician Consortium for Performance Improvement

## DEVELOPER

American College of Cardiology - Medical Specialty Society  
American Heart Association  
Physician Consortium for Performance Improvement

## ENDORSER

National Quality Forum

## INCLUDED IN

Ambulatory Care Quality Alliance

## ADAPTATION

Measure was not adapted from another source.

## RELEASE DATE

2003 Oct

## REVISION DATE

2005 Aug

## MEASURE STATUS

This is the current release of the measure.

This measure updates a previous version: American College of Cardiology, American Heart Association, Physician Consortium for Performance Improvement. Clinical performance measures: heart failure. Tools developed by physicians for physicians. Chicago (IL): American Medical Association (AMA); 2003. 8 p.

## SOURCE(S)

American College of Cardiology, American Heart Association, Physician Consortium for Performance Improvement. Clinical performance measures: heart failure. Tools developed by physicians for physicians. Chicago (IL): American Medical Association (AMA); 2005. 8 p. [9 references]

## MEASURE AVAILABILITY

The individual measure, "Heart Failure: ACE Inhibitor or ARB Therapy," is published in the "Clinical Performance Measures: Heart Failure." This document is available in Portable Document Format (PDF) from the American Medical Association (AMA)-convened Physician Consortium for Performance Improvement Web site: [www.physicianconsortium.org](http://www.physicianconsortium.org).



For further information, please contact AMA staff by e-mail at [cqi@ama-assn.org](mailto:cqi@ama-assn.org).

## COMPANION DOCUMENTS

The following are available:

- Physician Consortium for Performance Improvement. Introduction to physician performance measurement sets. Tools developed by physicians for physicians. Chicago (IL): American Medical Association (AMA); 2001 Oct. 21 p. This document is available from the American Medical Association (AMA) Clinical Quality Improvement Web site: [www.ama-assn.org/go/quality](http://www.ama-assn.org/go/quality).
- Physician Consortium for Performance Improvement. Principles for performance measurement in health care. A consensus statement. [online]. Chicago (IL): American Medical Association (AMA), Joint Commission on the Accreditation of Healthcare Organizations (JCAHO), National Committee for Quality Assurance (NCQA); [3 p]. This document is available from the AMA Clinical Quality Improvement Web site: [www.ama-assn.org/go/quality](http://www.ama-assn.org/go/quality).
- Physician Consortium for Performance Improvement. Desirable attributes of performance measures. A consensus statement. [online]. American Medical Association (AMA), Joint Commission on Accreditation of Healthcare Organizations (JCAHO), National Committee for Quality Assurance (NCQA); 1999 Apr 19 [cited 2002 Jun 19]. [5 p]. This document is available from the AMA Clinical Quality Improvement Web site: [www.ama-assn.org/go/quality](http://www.ama-assn.org/go/quality).

For further information, please contact AMA staff by e-mail at [cqi@ama-assn.org](mailto:cqi@ama-assn.org).

## NQMC STATUS

This NQMC summary was completed by ECRI on March 3, 2004. The information was verified by the measure developer on October 29, 2004. This NQMC summary was updated by ECRI on September 28, 2005.

## COPYRIGHT STATEMENT

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These Measures are intended to assist physicians in enhancing quality of care. Measures are designed for use by any physician who manages the care of a patient for a specific condition or for prevention. These performance Measures are not clinical guidelines and do not establish a standard of medical care. The Consortium has not tested its Measures for all potential applications. The Consortium encourages the testing and evaluation of its Measures.

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